

DOCKET NO.: REFH-0153  
Application No.: 10/054,057  
Office Action Dated: September 21, 2005

PATENT  
REPLY FILED UNDER EXPEDITED  
PROCEDURE PURSUANT TO  
37 CFR § 1.116



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:  
**Frederick S.M. Herz, et al.**

Confirmation No.: **3878**

Application No.: **10/054,057**

Group Art Unit: **3624**

Filing Date: **January 22, 2002**

Examiner: **Debra F. Charles**

For: **Stock Market Prediction Using Natural Language Processing**

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Sir:

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Applicant respectfully requests review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a Notice of Appeal. The review is requested for the reasons stated on the attached sheets. No more than five pages are provided.

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Withdrawal of the Final Rejection is believed appropriate for the following reasons:

**The rejection of claims 2-6 under 35 U.S.C. §103(a) as allegedly being obvious over an article by Wuthrich et al. entitled "Daily Stock Market Forecast from Textual Web Data" ("the Wuthrich article") in view of an article by Roesler et al. entitled "Intelligent Agents" ("the Roesler article"). is improper because the Examiner has not established *prima facie* obviousness.**

The Examiner has not provided a suggestion or motivation to enable one skilled in the art to combine the teachings of the references and, in any case, the proposed combination of teachings does not teach or suggest all of the claim limitations in claim 2 from which all claims depend. Withdrawal of the rejection of claims 2-6 as being obvious over the teachings of the Wuthrich and Roesler articles is solicited.

The invention predicts changes in the price of the stock of a particular company by relating changes in stock price of the *particular publicly traded company* to information stored in a template including natural language text describing activities or announcements of the particular publicly traded company *about said particular publicly traded company*. Changes in price of the stock of the particular publicly traded company may be predicted based on new information about the particular publicly traded company if information of the type included in any new information has in the past caused a statistically significant change in the stock price in the particular publicly traded company. Thus, the gathered information is related to a *particular company* for which stock price predictions are to be made.

In contrast with the invention, the Wuthrich article cited by the Examiner describes a method of predicting the *daily closing values of major stock market indices* using information published in articles on the Internet - mostly textual articles appearing in the leading and influential financial newspapers. Keywords in the textual language, such as "bond strong," "dollar falter," "property weak," "dow rebound," "technology rebound strongly," etc. (bottom of column 2 of page 2721) are taken from the articles by a domain expert and weighted if determined to be influential factors that may potentially move the stock market indices. Such keyword data is not information "relating to a particular publicly traded company" and is not used to "create a template including natural language text describing activities or announcements of said particular publicly traded company" as claimed. The Wuthrich article

does not teach how the keyword data is related to individual stocks and the described system makes no effort to predict the price of individual stocks using such keyword data. In fact, the system described in the Wuthrich article in no way relates the keyword data to the price of any individual stock and, in any case, it is unclear how such keyword data disclosed in the Wuthrich article could be related to the price of an individual stock as opposed to the stock index. Thus, the Wuthrich article does not generally teach the claimed invention as the Examiner alleges.

The Roesler article describes the use of intelligent agents for locating items within received textual content (pages 26 and 28). The Roesler article does not suggest that intelligent agents could be used to parse sources of information for information about a particular publicly traded company, to standardize different references to the particular publicly traded company by different proper names, or to co-reference when the particular publicly traded company is referred to by pronouns as set forth in claim 4, for example. In fact, the Roesler article also provides no teaching of co-referencing pronouns or of clustering data about different companies as claimed. Applicant does not see any particular relevance of the teachings of the Roesler article to the claimed invention and the Examiner has not provided any guidance.

In view of the afore-mentioned shortcomings in teachings of the Wuthrich and Roesler articles, Applicant submits that the Wuthrich and Roesler articles taken separately or together do not teach or suggest all of the claim limitations and hence cannot establish a *prima facie* case of obviousness, even if the teachings of these references are combinable as proposed by the Examiner.

The Examiner has further failed to provide a *prima facie* case of obviousness with respect to any claim since the Examiner has not met her burden of providing a suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. Instead, the Examiner has provided general references to "efficiently and effectively predict the stock market from news data." Applicant submits that such general statements of motivation to combine made by the Examiner, without support in the references themselves or evidence that suggestions to combine are in the knowledge generally available to one skilled in the art, do not meet the Examiner's initial burden of factually supporting any *prima facie* conclusion of obviousness.

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The Examiner further appears to suggest in the obviousness rejection that knowledge of artificial intelligence and/or neural networks is all that is necessary to lead one skilled in the art to combine the teachings of the Wuthrich and Roesler articles to provide the claimed methods, including pronoun co-referencing and the like. Such general suggestions clearly do not provide the requisite motivation to combine the teachings of these articles with the necessary expectation of success. The Examiner has thus failed to provide the requisite motivation to combine the reference teachings.

Given that the Wuthrich and Roesler articles do not together teach all of the claimed features and there is no apparent reason or motivation for combining the teachings of the articles in any event, withdrawal of the rejection of the claims over the Wuthrich and Roesler articles is appropriate and is respectfully requested.

#### Conclusion

In view of the above, Applicant submits that claims 2-6 are allowable over the art of record. Allowance of claims 2-6 is solicited.

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